

ARIZONA DEPARTMENT OF WATER RESOURCES

Operations Division
500 North 3rd Street
Phoenix, Arizona 85004

*

M6-64

WELL DRILLER REPORT

AUG 7 1995

This report should be prepared by the driller in all detail and filed with the Department within 30 day following completion of the well.

1. Owner Name: MAGMA COPPER COMPANY
Address: 14605 WEST HUNT HIGHWAY FLORENCE AZ 85232
Street City State Zip
2. Driller Name: BOYLES BROTHERS DRILLING CO.
Address: 6527 W. NORTHVIEW AVE GLENDALE, AZ 85301
Street City State Zip
3. Location: 4 N8 9 (E/W) 28 1/4 SW 1/4 SW 1/4 (NW)
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55- 547815 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 590 ft
7. Type of casing Sch. 80 PVC
8. Diameter and length of casing 5 7/8 in. from 0/5 to 583 in from _____ to _____
9. Method of sealing at reduction points _____
10. Perforated from _____ to _____ from _____ to _____ from _____ to _____
11. Size of cuts _____ Number of cuts per foot _____
12. If screen was installed: Length 38.5 ft. Diam 5 7/8 in. Type sch 80 PVC
13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started MARCH 23 1995
Month Day Year
15. Date completed MARCH 30 1995
Month Day Year
16. Depth to water 144.5 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
from the top of the casing
18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 547815
File No. D(49)28ACC
Received _____ By _____
ENTERED AUG 17 1995
Entered _____ By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

[illegible]

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Boyle Bros. Machine Works
6527 W. Northrup Ave
 Street Chicago, Ill.
 City State Zip 60631-9441 Phone No. 1-731
10/20/95
 Date

**ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION**

500 North Third Street, Phoenix, Arizona 85004-3903
Phone (602) 417-2470 Fax (602) 417-2422

**REQUEST FORM TO CHANGE WELL INFORMATION
OWNERSHIP * DRILLER * VARIANCE**

Please complete the appropriate section of this request form and return to the above address with applicable fee.
NOTE: A.R.S. § 45-593.C requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

1. CHANGE OF WELL INFORMATION: (NO FEE REQUIRED)

NOTE: If the location of the proposed well changes after drilling authority has been issued, attach a \$10.00 reissue fee for each well.

WELL REGISTRATION NO. 55- 547815 FILE NO: D(4-9)28 BCC

If known, I/We request the following well information be changed: _____

NAME CHANGE ONLY

Date _____ Signature of Current Well Owner _____

2. STATEMENT OF CHANGE OF WELL OWNERSHIP: (\$10.00 FEE REQUIRED)

NOTE: If this change consists of more than one well and the names are common: attach a \$10.00 fee. Otherwise, each well requires a separate fee of \$10.00.

I, _____, state that I am the Previous/New Owner of the well described below:

$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ of Section _____ Township _____ Range _____
10 Acre 40 Acre 160 Acre

Well Registration No. 55- See attached File No.: _____ (if known)

Magma Copper Company
PRINT Previous Owner's Name

BHP Copper Inc.
PRINT New Owner's Name

7400 North Oracle Road, Suite 200
Mailing Address

7400 North Oracle Road, Suite 200
Mailing Address

Tucson Arizona 85704
City State Zip

Tucson Arizona 85704
City State Zip

520-575-5600
Telephone Number

520-575-5600
Telephone Number

Signature of Previous/New Well Owner By: [Signature]
Title: Land Manager

Date 7-23-98

**ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION
500 North Third Street, Phoenix, Arizona 85004-3903
Phone (602) 417-2470 Fax (602) 417-2422**

3. REQUEST TO CHANGE WELL DRILLER \$10.00 FEE REQUIRED FOR EACH WELL

This request must be received by this Department and the Drill Card issued to the new drilling firm prior to the drilling or completion of any well.

Well Registration No. 55- _____ File No: _____

Original Well Driller

New Well Driller

Mailing Address

Mailing Address

Telephone Number

Telephone Number

ADWR License Number

ADWR License Number

R.O.C. License Category

R.O.C. License Category

Typed or Printed Name of Well Owner

Signature of Well Owner

Date

The fee charge for well ownership and reissue of drill card is authorized by R12-15-151, effective June 30, 1994.

4. REISSUE OF DRILLING AUTHORITY FOR VARIANCE REQUEST: (\$10.00 EACH WELL)

NOTE: If extraordinary or unusual conditions exist, after the initial drilling authority has been issued, the well owner or well driller may request a variance from the provisions of R12-15-811.

WELL REGISTRATION NO. 55- _____ FILE NO: _____

I/WE REQUEST THE FOLLOWING WELL DRILLING AUTHORITY BE REISSUED PER THE ATTACHED VARIANCE REQUEST:

Signature of Well Owner/Well Driller _____

Date _____

NAME: MAGMA COPPER CO

GRID: K 09

REPORT NO: W19020

ARIZONA DEPARTMENT OF WATER RESOURCES WELL REPORT
OPERATIONS DIVISION

PAGE 5,082

REPORT DATE: 1/3/96

WELLS SEQUENCED BY ALPHABETICAL ORDER ***

WELL NAME	C	O	R	S	E	T	R	WELL DEPTH	DEPTH BASED	CD	WATER LEVEL	PUMP (GPM)	WELL DRILL DATE	DRL LOG NO.	WTR USE	48	L	C	O
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	33	B	B	C	55-547814	0270	0257	05	0090	00014	5/25/1995	314	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	33	B	B	C	55-547815	0510	0485	05	0109	00014	5/27/1995	314	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE RD TUCSON AZ	D	4.0	9.0	34	B	B	C	55-547816				00032			314	M	08	I	X
MAGMA COPPER CO 7400 N ORACLE RD TUCSON AZ	D	4.0	9.0	33	B	A	C	55-547817	0470	0365	05	0136	00014	6/16/1995	314	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	28.6	C	C	C	55-547818	0590	0383	05	0144	00014	3/30/1995	028	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE #200 TUCSON AZ	A	1.0	15.0	14	C	C	A	55-546983							360	M	07	I	N
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	28	B	C	B	55-547818	0290	0268	05	0117	00014	5/10/1995	314	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	28	B	C	B	55-547817	0370	0349	05	0115	00014	5/09/1995	314	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	29	B	C	B	55-547818	0510	0500	05	0124	00014	5/06/1995	314	M	08	X	X
MAGMA COPPER CO 7400 N ORACLE RD #162 TUCSON AZ	D	4.0	9.0	29	B	C	B	55-547819				00020			028	M	08	I	X
MAGMA COPPER CO 7400 N ORACLE #200 TUCSON AZ	A	1.0	15.0	23	B	A	D	55-546983							360	M	07	I	N

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FILING FEE \$10.00

OPERATIONS DIVISION

500 NORTH THIRD STREET

PHOENIX, ARIZONA 85004 (602) 417-2470

NOTICE OF INTENTION TO DRILL MONITOR/PIEZOMETER WELL

FEB 1 1995

FILING FEE \$10.

OPERATIONS DIV.

Section § 45-596, Arizona Revised Statutes provide: Prior to drilling a monitor or piezometer well, a Notice of Intention to Drill shall be filed with the Department.

1. WELL LOCATION:

4 NS 9 EW 28
Township Range Section

SW 1/4 SW 1/4 NW 1/4
10 ACRE 40 ACRE 160 ACRE

2. Position location of the well on the land:

Latitude 33 0 3 15 "

Longitude 111 0 26 12 "

3. County: Pinal

4. Owner of the land of wellsite:

Magma Copper Company
Name
7400 N. Oracle Rd., Ste. 200
Address
Tucson AZ 85704
City State Zip

5. Lessee of the land of wellsite:

Name
Address
City State Zip

6. Owner of well:

Magma Copper Company
Name
7400 N. Oracle Rd., Ste. 162
Address
Tucson AZ 85704
City State Zip

7. Consulting Firm: BC

Contact Person: Steve Mellon

Phone: 602-222-4445

8. Purpose of well drilled pursuant to this notice

Monitor X

Piezometer

9. If for deepening or modifying, Well Registration Number

55-

10. Construction will start:

February 1995
Month Day Year

11. Period well will remain in

use 3 Months Years

12. For monitoring wells, is pump equipment to be installed?

Yes No X

(a) If yes, design pump capacity

(b) What use will be made of the water

13. Drilling firm:

Boyles Brothers Drilling C
Name
6527 W. Northview Ave.
Address
Glendale AZ 85301
City State Zip
DWR License No. 28
Class A-04
076-386-002
ROC License classification

14. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous material or petroleum storage areas and tanks?

Yes No X

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

File No. D(4-9)28BCC

Filed 2-1-95 By sk

Input ENTERED FEB 15 1995

DUPLICATE

Mailed 2-10-95 By sk

Registration 55- 547815

AMATNA Pinal

W/S 28 S/B 11

16. Proposed method of abandonment of well after project is completed: According to Regulation R-12-15-816

17. Is this well to monitor existing contamination? No Potential contamination Please explain:

GENERAL INSTRUCTIONS

- Fill out this form in **DUPLICATE** and send **WITH \$10.00 FEE** to 500 NORTH THIRD STREET, PHOENIX, AZ 85004
- For specific instructions, limitations and conditions, see the reverse side of this form.
- Must be signed by land owner or lessee.
- Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified and the drilling, deepening, or modification of the well may not proceed.

I state that Notice is filed in compliance with Section § 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on the reverse side of this form.

Dan S. Ramey
Typed or Printed Name

Signature [] Land Owner [] Lessee of wellsite

26 Jan 95
Date

18. If construction plans have been coordinated with Arizona Department of Environmental Quality, who is the agency contact? _____
If construction plans have been coordinated with Arizona Department of Water Resources, who is the agency contact? _____

19. WELL CONSTRUCTION PLAN

- a) Drilling method (mud rotary, hollow-stem auger, etc.) Mud Rotary
- b) Borehole diameters: 13 3/4 inches from 0 feet to 20 feet.
8 3/4 inches from 20 feet to 510 feet.
- c) Casing materials (PVC, steel, hollow-stem auger, etc.)
material (LCS) Steel diameter 4 5/8 inches from 0 feet to 20 feet
material Sched 80 PVC diameter 4 inches from 0 feet to 460 feet
- d) Method of sealing at reductions _____
- e) Annular seal materials (cement, grout, etc.); method of placement (tremied, circulated)
material Cement Grout method Tremie from 0 feet to 20 feet
material Bentonite Grout method Tremie from 20 feet to 450 feet
- f) Filter packs (state material);
material Colorado Silica Sand from 450 feet to 510 feet
material #6-g Mesh from _____ feet to _____ feet
- g) Perforations or screen specifications:
type .080 inch slot PVC Sched 80 from 460 feet to 500 feet
type _____ from _____ feet to _____ feet
- h) Method of well development (bail, air lift, surge) Air Lift and Jetting
- i) Will surface or conductor casing extend above grade: Yes _____ No X

20. Include detailed construction diagram showing expected water depth in feet below land surface, and details of vault, if specified.

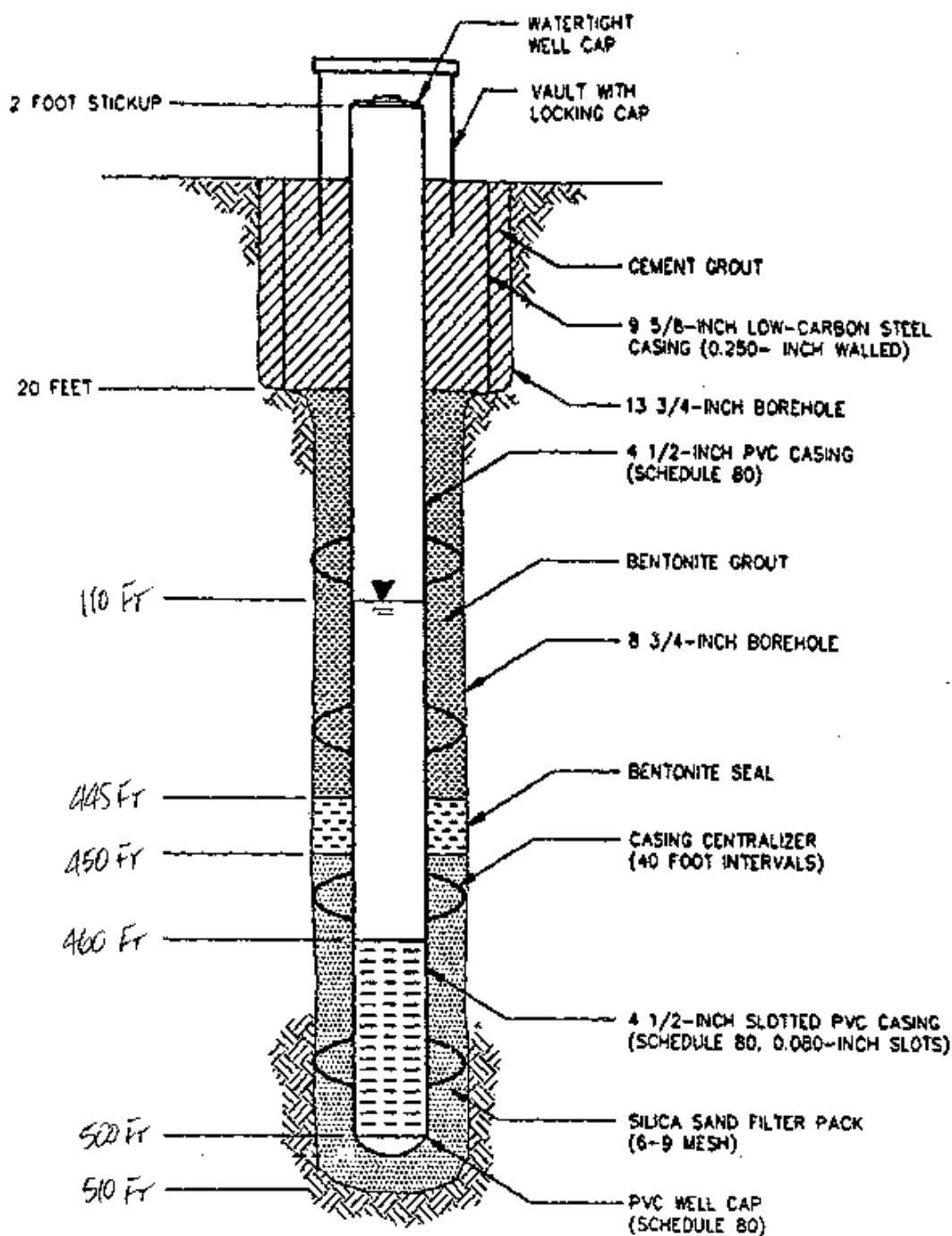
CONDITIONS

- I. Construction and abandonment standards for all wells shall be in accordance with A.A.C. R12-15-811 and R12-15-816.
- II. Drilling of the well shall be completed within one (1) year after the date of Notice.
- III. A Well Driller Report, is required within 30 days of completion of drilling. A Completion Report, is required to be filed with the Department within 30 days after installation of pump equipment for monitor wells.
- IV. Pump equipment may not be installed on a well drilled for piezometer purposes. If a monitor well is pumped, pumping is limited to the maximum amount required for monitor purposes, but in no case may exceed 35 gallons per minute and an annual volume of 10 acre feet total.
- V. A.A.C. Rule R12-15-811.H.2, requires that: "A monitor well shall be identified as such on the vault cover or at the top of the steel casing. Identification information will include well registration number."
- VI. Special construction standards required pursuant to A.A.C. Rule R12-15-821: _____

FEB 1 1995

OPERATIONS DIV.

M6-gc



N.T.S.

NOTES:

1. PVC = POLYVINYL CHLORIDE
2. CASING DIMENSIONS ARE OUTSIDE DIAMETER

WELL DESIGN**BROWN AND CALDWELL**

ARIZONA DEPARTMENT OF WATER RESOURCES

500 N 3RD ST., PHOENIX, AZ. 85004

Telephone (602) 417-2470

Fax (602) 417-2401



FRANK SYMINGTON
Governor

RIITA P. PEARSON
Director

February 9, 1995

MAGMA COPPER
7400 N. ORACLE RD, S162
TUCSON, AZ. 85704

RE: Registration No. 55-547813 THRU 55-547819

File No. VARIOUS

Dear Well Owner:

Enclosed for your records is an annotated copy of the Notice of Intention to Drill a well. This is returned to you as evidence of compliance with A.R.S. §45-596. A drilling card has been mailed to your designated driller. Prior to drilling he must have it in his possession.

Since this well is being drilled as a Monitor well, or for Cathodic Protection, Grounding, Geotechnical or Piezometer purposes, our standard driller report form is also being furnished to the driller. He is required to complete it and return it to the Department within 30 days after the completion of the well. A Completion Report form is being furnished for monitor wells where pump installation is authorized. This must be completed within thirty days of installation as required by A.R.S. §45-600.

A Change of Well Information form is enclosed for your future use. If you deem it necessary to change the location of the proposed well, please notify the Department on the enclosed form. A properly amended Drilling Card will then be issued and must be in possession of the driller before drilling begins. During the drilling of a new well, if it is determined that it must be abandoned, then a Well Abandonment Completion Report must be submitted per R12-15-816.F.

Per A.R.S. §45-593, the person to whom a well is registered shall notify this Department of a change of ownership of the well and/or information pertaining to the physical characteristics of the well, in order to keep the well registration file current and accurate.

For additional information, you may contact the Operations Division at (602) 542-1581.

Sincerely,

Ellen Kane

Ellen Kane

Groundwater Permit Specialist

3636 N. CENTRAL AVE. S300
PHOENIX, AZ. 85012

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
OPERATIONS DIVISION
15 SOUTH 15TH AVENUE
PHOENIX, ARIZONA 85007
(602) 542-1581

ENTRY CODE 55

FILE NO. VARIOUS 547814 THRU 547819

ITEM DESCRIPTION	RATE	AMOUNT
FILING FEE FOR NOI TO DRILL WELLS	\$10.00	\$60.00
2/9/95/ek CK#7531		\$60.00

CHECK NO. _____ FEE ACCOUNT NO. _____ TOTAL \$ _____

CHIT NO. _____ RECEIVED BY _____ DATE _____

**ARIZONA DEPARTMENT OF WATER RESOURCES
OPERATIONS DIVISION**

500 North Third Street
Phoenix, Arizona 85004-3903
Phone (602) 417-2470

DUPLICATE

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO. 55-547815

AUTHORIZED DRILLER: BOYLES BROS. DRILLING CO.

LICENSE NO. 28

NOTICE OF INTENTION TO DRILL A MONITOR WELL HAS BEEN FILED WITH THE DEPARTMENT BY:

Owner of Well(s)

MAGMA COPPER CO.

7400 N. ORACLE RD. S162

TUCSON

AZ 85704

The well(s) is/are to be located in:

SW 1/4 SW 1/4 NW 1/4 Section 28 Township 4.0 SOUTH Range 9.0 EAST
10 acre 40 acre 160 acre

NUMBER OF WELLS IN PROJECT: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON JAN 31ST, 1996

THE DRILLER SHALL FILE A LOG OF THE WELL WITHIN 30 DAYS OF
COMPLETION OF DRILLING.




CHIEF, OPERATIONS DIVISION

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

Registration No. 55-547815File No. D(4-9)28600**COMPLETION REPORT**

1. Per A.R.S. § 45-600, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

LOCATION OF THE WELL:

4 N/S Township 9 E/W Range 28 Section SW 1/4 10-acre SW 1/4 40-acre NW 1/4 160-acre

EQUIPMENT INSTALLED:

Kind of pump GRUNDFOS SUBMERSIBLE TURBINE
Turbine, centrifugal, etc.

Kind of power ELECTRIC H.P. Rating of Motor 2.0
Electric, natural gas, gasoline, etc.

Pumping Capacity 5-14 GPM Date pump installed: AUGUST 1995
Gallons per minute

WELL TEST:

Test pumping capacity 7 GPM Date Well Tested: 8/24/95
Gallons per minute

Method of Discharge Measurement FLOW METER
Weir, orifice, current meter, etc.

Static Groundwater Level 154.34 ft. Drawdown 182.98 ft.

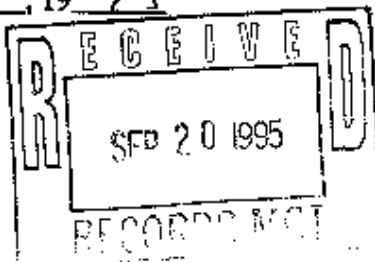
Total Pumping Lift 337.32 ft. Drawdown — lbs.

-(Flowing Well)-

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

ENTERED SEP 21 1995

Sept 14, 19 95
Date



MAGMA COPPER COMPANY
Print Well Owner's Name

[Signature]
Signature of Well Owner or Agent

14605 East Hunt Highway

Address

Florence AZ 85232

City State Zip